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The State of Foundational Numeracy and Literacy in Zambia and Policy Implications: A Mixed Method Approach

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Abstract: Based on decades of experiences, literature reviews, observations and analysis of Zambia's primary education system, this study concludes that foundational literacy and numeracy levels are critically low, lagging behind regional benchmarks. This crisis is driven by systemic failures across key areas. Insufficient and unevenly distributed qualified teachers, exacerbated by high pupil-teacher ratios and disruptive transfers, weaken instruction. Chronic shortages and delays in teaching and learning materials further undermine classroom effectiveness. A profound urban-rural divide perpetuates inequality; rural schools suffer from acute resource shortages, inadequate teacher housing and sanitation, poor connectivity, and logistical challenges compounded by weak infrastructure and an insufficient rural hardship allowance. To address this, immediate and coordinated action is required. Priorities must include: 1) Revising teacher deployment and retention policies to ensure equitable distribution and stability, particularly in rural areas; 2) Guaranteeing the timely procurement and distribution of quality learning materials; 3) Investing in essential school infrastructure, including technology, electricity, water, and sanitation; 4) Strengthening school leadership and monitoring systems; and 5) Expanding access to quality Early Childhood Education (ECE) as a critical foundation for future learning. Without these strategic interventions, the goal of achieving universal foundational skills for Zambia's children will remain out of reach.

Keywords: *Literacy, Numeracy, Policy.*

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I. INTRODUCTION

➢ *Introduction and Background*

Sub-Saharan Africa is facing a severe foundational learning crisis that threatens long-term socio-economic development, with foundational literacy and numeracy (FLN) outcomes remaining critically low. These skills form the bedrock of all subsequent learning, yet evidence shows that a majority of primary school learners fail to acquire minimum proficiency. According to UNESCO's Global Education Monitoring Report (2025), fewer than 50.8% of African children achieve basic reading and numeracy skills by the end of primary school. In Zambia, the situation is particularly alarming: approximately 98.5% of learners are unable to read and understand a simple text by the age of 10. National assessments further reveal weak learning outcomes, with Grade 5 learners attaining mean scores of only 34.9% in literacy and 36.9% in numeracy, while many Grade 6 learners function at Grade 3 competency levels.

The drivers of this crisis are systemic and interrelated. Persistent misalignment between curriculum intentions, teaching materials, assessment practices, and classroom delivery undermines effective instruction. These challenges are compounded by shortages of qualified teachers, high pupil–teacher ratios, limited instructional support, and significant urban–rural disparities in resource allocation. External shocks, including the COVID-19 pandemic, cholera outbreaks, and recurrent droughts, have further disrupted learning continuity, reinforcing a pattern where increased access to schooling has not translated into meaningful learning outcomes.

In response, the Zambian government, in collaboration with international partners, has prioritised FLN through evidence-based interventions, notably the Catch-Up Programme adapted from the Teaching at the Right Level (TaRL) approach. By grouping learners according to competency rather than age or grade and using indigenous languages in early instruction, the programme has demonstrated promising results. These efforts reaffirm the central role of primary education as foundational learning, historically and policy-wise, in advancing Education for All, SDG 4, and Vision 2030. Despite sustained policy reforms

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since 1977, persistent challenges in instructional quality and learner retention continue to constrain education outcomes, underscoring the urgent need for coordinated, system-wide reform.

II. FOUNDATIONAL LEARNING, LITERACY AND NUMERACY IN EDUCATION AND NATIONAL DEVELOPMENT

➢ *Educational and Development*

Foundational learning refers to the acquisition of essential literacy, numeracy, cognitive, socio-emotional, physical, and civic competencies during early childhood and lower primary education. These competencies are critical determinants of learning outcomes across the entire education system. Evidence from Zambia and comparable education systems demonstrates that learning deficits established in the early grades persist into secondary and tertiary education, thereby undermining national investments in education quality and long-term human capital development.

Zambia has made strong policy commitments to foundational learning through Educating Our Future (1996), Vision 2030, the National Education Policy (2025), and the Zambia Education Curriculum Framework (ZECF, 2023). These frameworks recognise Early Childhood Education (ECE) and Grades 1–3 as the bedrock of quality education and sustainable national development. Foundational learning is therefore treated as a system-level priority rather than a standalone programme. Despite these commitments, early-grade assessment data indicate that a significant proportion of learners fail to attain minimum proficiency in literacy and numeracy.

➢ *Policy-Aligned Domains of Foundational Learning*

Zambian education policy identifies several domains of foundational learning, including literacy, numeracy, social and emotional development, cognitive skills, physical development, and citizenship values. This study focuses on literacy and numeracy due to their central role in academic success. Literacy competencies include reading fluency, comprehension, writing, and oral communication, while numeracy encompasses number sense, basic operations, measurement, and logical reasoning. These skills underpin learning across all subjects and support STEM development and workforce readiness in line with Vision 2030 (ZECF, 2023).

➢ *Problematization and Comparison with the Region*

National and regional assessments highlight a persistent foundational learning crisis in Zambia. Early Grade Reading Assessments (EGRA) revealed that 65% of Grade 2 learners could not read a single word in 2015, with only modest improvement by 2018. Comprehension outcomes remain critically low, with fewer than 10% of learners demonstrating adequate understanding. UNESCO assessments similarly report that over 70% of Grade 5 learners perform below minimum proficiency, exacerbated by resource shortages and rural–urban disparities. While initiatives such as the Let's Read Project have generated localised improvements, the evidence underscores the urgent need for sustained early-grade interventions, strengthened teacher training, and expanded mother-tongue instruction. With reference to numeracy, Zambia has participated in SACMEQ since 1999 to 2015. Table 1 shows the year the assessments were conducted and the number of participating countries.

Table 1 Regional SACMEQ Iterations

Year		**Participating countries**
1999	SACMEQ I	7(Kenya, Mauritius, Namibia, Zambia, Zimbabwe, Malawi and Tanzania)
2004	SACMEQ II	14 (Kenya, Mauritius, Namibia, Zambia, Zimbabwe, Malawi, Tanzania, Botswana, Mozambique, South Africa, Seychelles, Swaziland, Uganda)
2011	SACMEQ III	15 (Kenya, Mauritius, Namibia, Zambia, Zimbabwe, Malawi and Tanzania, Botswana, Mozambique, South Africa, Namibia, Seychelles, Swaziland, Uganda and Lesotho)
2015	SACMEQ IV	15 (Kenya, Mauritius, Namibia, Zambia, Zimbabwe, Malawi, Tanzania, Botswana, Mozambique, South Africa, Seychelles, Swaziland, Uganda and Lesotho)

Source: Takuya et al. (2019)

Zambia has consistently recorded poor performance in all the assessments it has participated in. Overall, performance in numeracy has stagnated at below the minimum level of 40% from 1999 (MOE, 2020). It is reported by Hungi et al (2010) that 67.3% of Zambian 6th-grade learners did not even reach the category "Basic Numeracy" in SACMEQ II. Additionally, Zambia was ranked the lowest in the mean performance in numeracy among the 15 countries in SACMEQ III and IV. as shown below.

Zambia's performance in literacy has consistently been low when compared with the performance of other SACMEQ member countries**.** For example**,** the SACMEQ IV average score for all member countries was 513.3 for literacy assessment in 2007-2013.

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Table 2 Regional Comparison of Literacy Assessment

#	Country	Reading Score (SACMEQ IV)	SACMEQ AVERAGE
1	Mauritius	587.8	513.3
2	Kenya	577.6	513.3
3	Seychelles	608.9	513.3
4	Eswatini (Swazila	570.1	513.3
5	Botswana	567.1	513.3
6	South Africa	538.3	513.3
7	Namibia	537.8	513.3
8	Uganda	512	513.3
9	Lesotho	510.7	513.3
10	Zimbabwe	508.4	513.3
11	Zanzibar (Tanzan	525.7	513.3
12	Malawi	457.7	513.3
13	Zambia	456.1	513.3

The SACMEQ average score for numeracy in the SACMEQ IV assessment (2007-2013) was 538, as reflected in Table 3, indicating that Zambia performed the lowest in maths assessments.

Table 3 Regional Comparison of Numeracy Assessment

#	Country	Maths Score (SACMEQ IV)	SACMEQ AVERAGE
1	Mauritius	644.1	538
2	Kenya	608.1	538
3	Seychelles	599.1	538
4	Eswatini (Swaziland)	577.6	538
5	Botswana	562.9	538
6	South Africa	551.5	538
7	Namibia	523.2	538
8	Uganda	522.4	538
9	Lesotho	513.5	538
10	Zimbabwe	524.1	538
11	Zanzibar (Tanzania)	498.6	538
12	Malawi	479	538
13	Zambia	477	538

A 2016 UNESCO assessment found that more than 62% of grade 5 learners were below proficiency in mathematics. The evidence of low performance is also reported in National Assessment surveys by the Examination Council of Zambia (ECZ). While the desired achievement level is 70%, achievement levels at Grade 5 on average are at 38% for 1999, 2001, 2003, 2006, 2008, 2012, and 2014. The table below shows the trend in mean performance in numeracy/mathematics.

Table 4 ECZ 2014 National Assessment Survey Report in Maths (Desired Score 70%)

Year of National Assessment	1999	2001	2003	2006	2008	2012	2014
Mean performance (%)	34.3	35.7	38.5	38.5	39.3	38.3	35.5

Source: ECZ 2014 National Assessment Survey Report

In summary, National and regional assessments such as EGRA/EGMA and SACMEQ have consistently shown weak performance in Zambia. For example, Zambia's Ministry of Education and partners (UNICEF, USAID, VVOB, TaRL Africa) report that many Grade 3–5 learners fail to achieve required numeracy skills, struggling with basic operations like addition, subtraction, and multiplication. UNESCO also highlights Zambia's use of SACMEQ and EGRA/EGMA data to track learning outcomes, noting persistent challenges in mathematics proficiency. National assessments (such as EGRA/EGMA and SACMEQ studies) show that less than 50% of Grade 5 learners reach minimum numeracy proficiency, meaning many children struggle with basic operations like addition, subtraction, and multiplication.

In light of the foregoing difficulties based on prior secondary data, this study sought to establish from the perspectives of primary school teachers across the country, the state of foundational numeracy and literacy, as well as the challenges and recommendations for improvements.

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III. METHODOLOGY AND SAMPLE

This study employed a descriptive and analytical survey design involving ECE and primary school teachers from Kwame Nkrumah University to assess foundational literacy and numeracy in primary schools. Using semi-structured questionnaires and desk reviews, the study generated quantitative and qualitative evidence on trends, perceptions, and implementation gaps, enabling analysis of the disconnect between policy intent and classroom practice and informing evidence-based policy options.

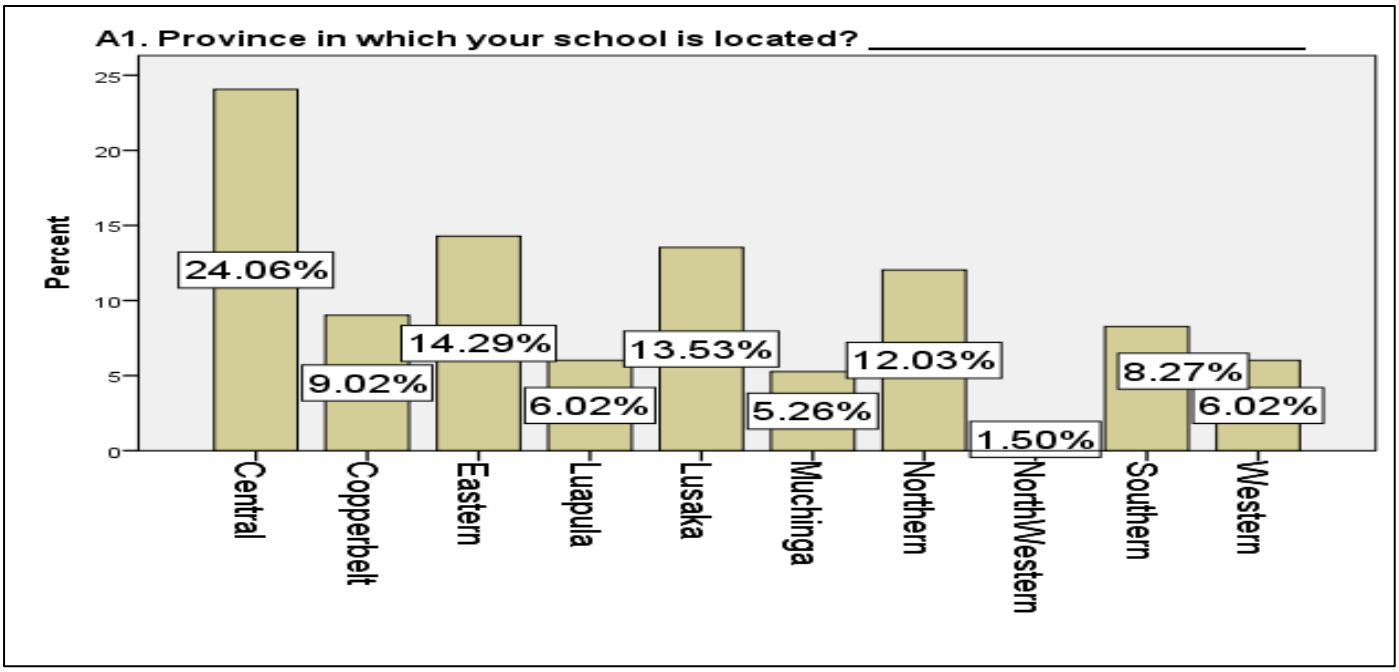

Fig 1 Provincial Representation in the Sample

Figure 1 reflects that all 10 provinces were surveyed in this study at Kwame Nkrumah University. Out of the 134 ECE, primary school teachers, and administrative staff who responded, the province with the highest response rate is Central, followed by Eastern, Lusaka, Northern, Copperbelt, Southern, and so on.

IV. FINDINGS

- *The Current Levels of Foundational Literacy*

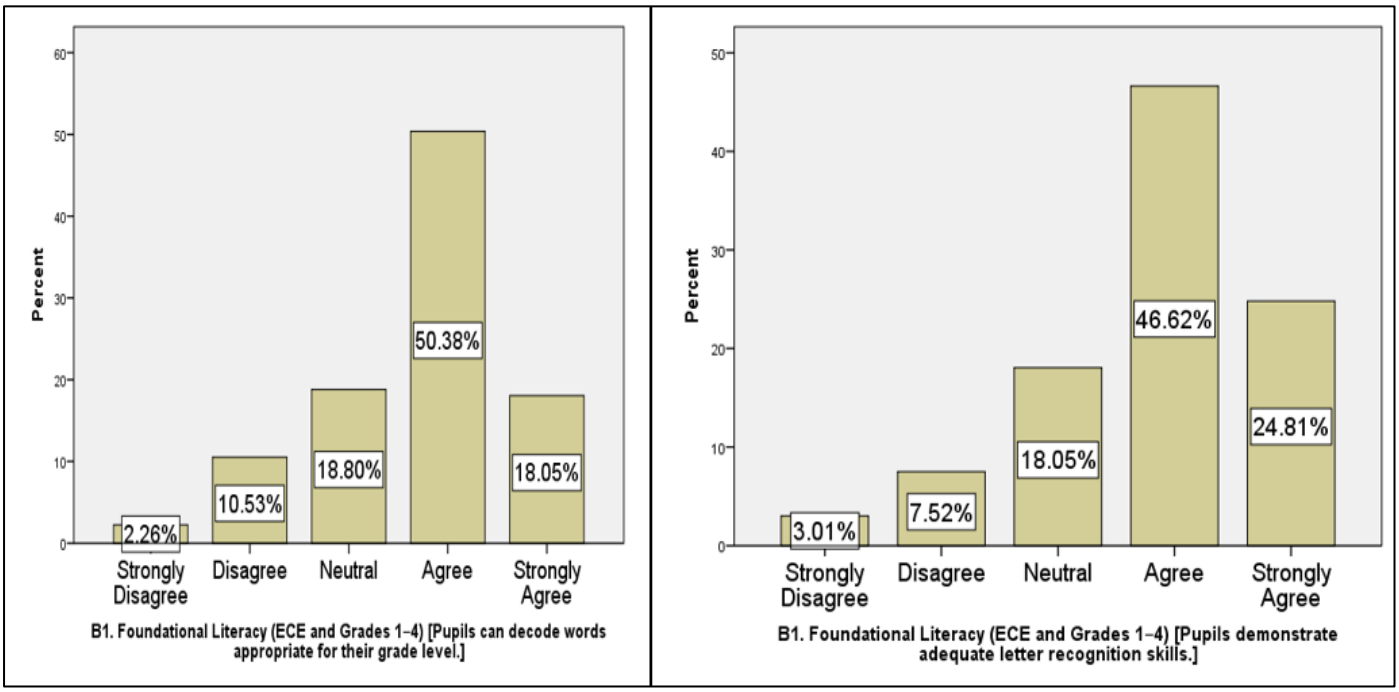

Fig 2 Word Decoding and Adequate Letter Recognition Skills

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Figure 2 shows that 68% of learners demonstrated adequate word decoding skills, while 71% achieved sufficient letter recognition, indicating progress in early literacy foundations. Despite these gains, decoding accuracy requires further improvement. Compared with national studies such as the Zambia Primary Reading Programme, which reported much lower comprehension levels, these results are relatively stronger. However, national monitoring continues to reveal persistent early literacy weaknesses, particularly in rural areas.

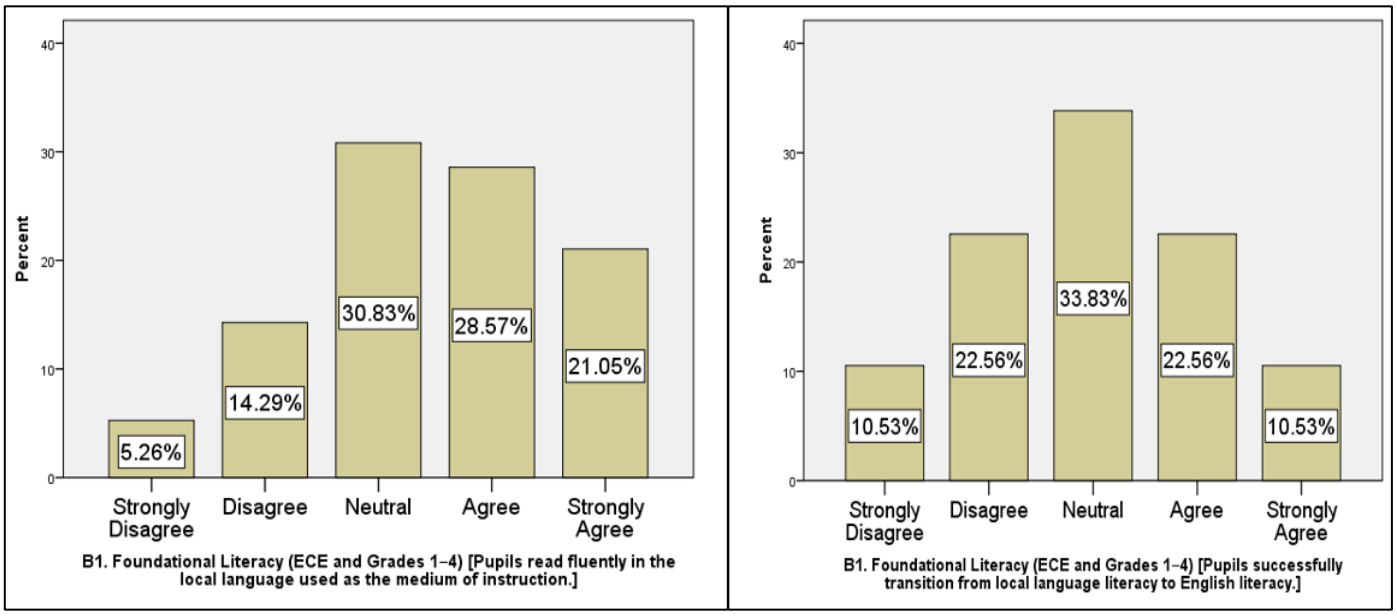

Fig 3 Fluently Reading in the Local Language and Transition Successfully to English Literacy

The findings show that 50% of learners read fluently in their local language, reflecting moderate foundational literacy progress, while only 33% have successfully transitioned to English reading. These results align with national assessments, which report less than 50% fluency in mother-tongue reading and only 30–35% transition to English by Grade 4. The persistent gap highlights the need to strengthen support for English literacy while sustaining effective mother-tongue instruction.

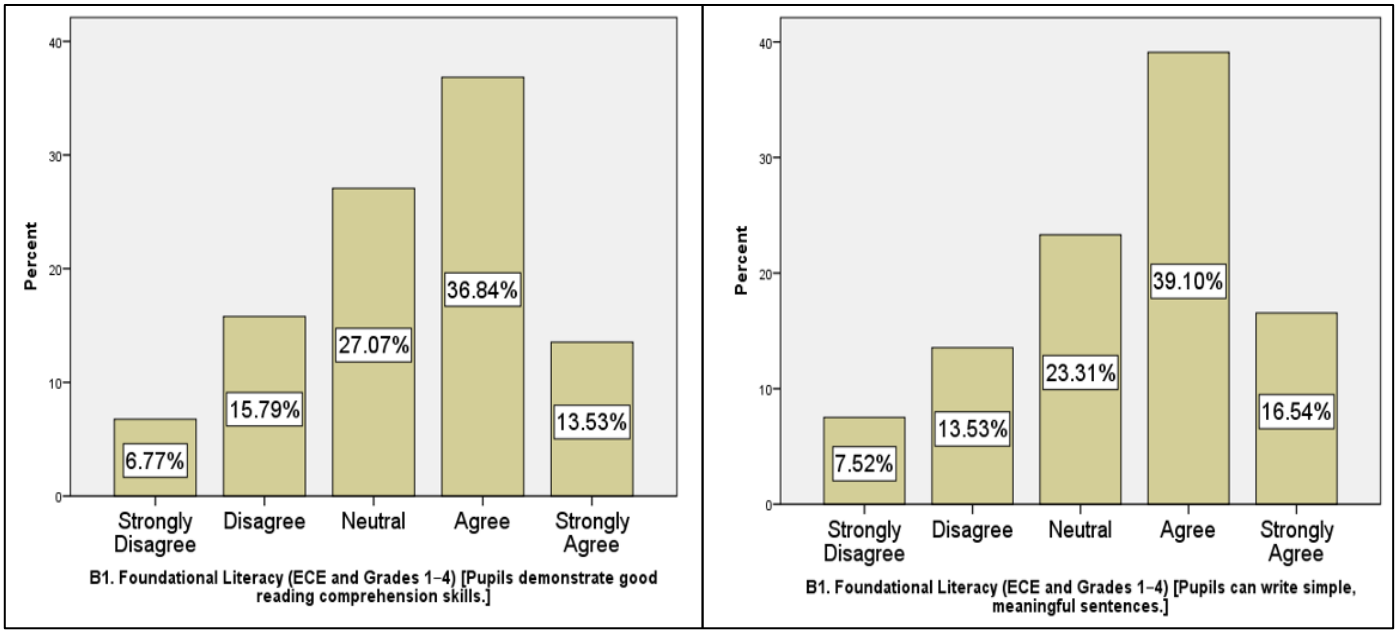

Fig 4 Good Reading Comprehension Skills and Write Simple, Meaningful Sentences

The results indicate that 50% of learners demonstrated good reading comprehension, while 56% were able to write simple, meaningful sentences. These findings show moderate progress in core literacy skills, though substantial improvement is still needed. Compared with national assessments, which report below 45% comprehension and about 50% writing proficiency in early grades, these outcomes are slightly stronger, suggesting encouraging gains above the national baseline.

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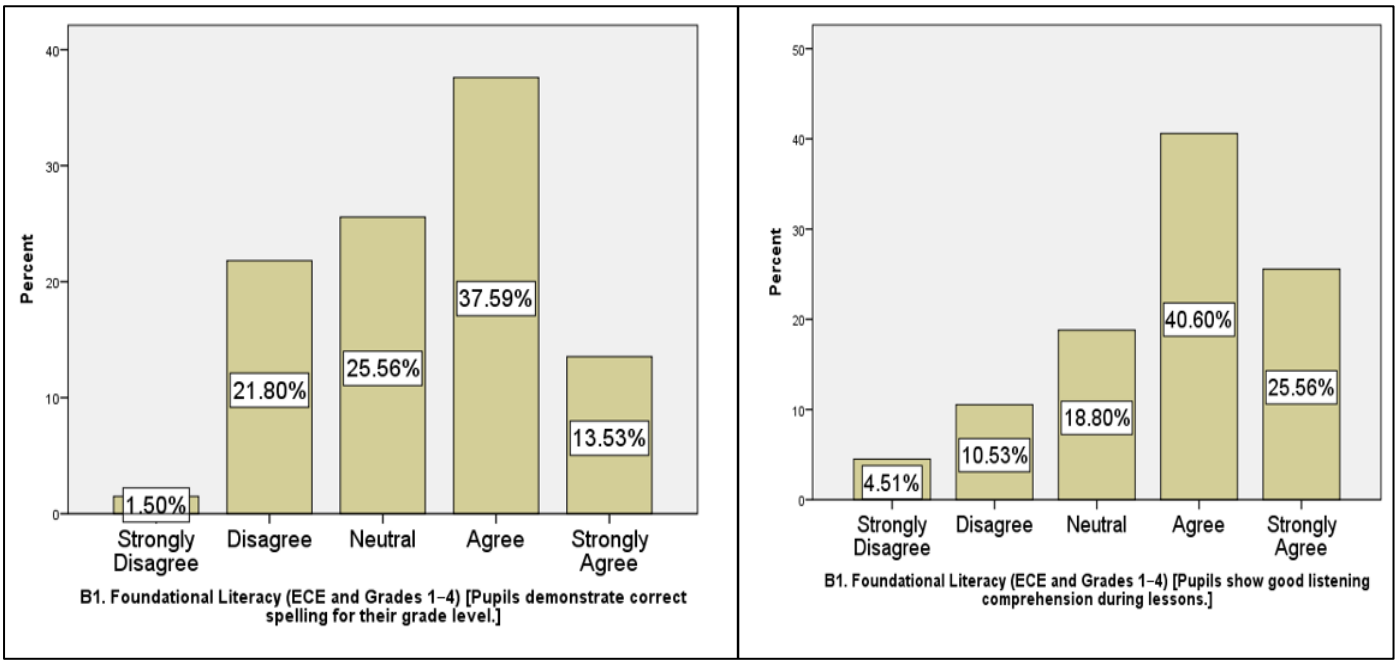

Fig 5 Correct Spelling and Good Listening Comprehension During Lessons

The findings show moderate spelling accuracy, with 51% of learners spelling correctly, and stronger listening comprehension at 66%. This indicates better performance in receptive than productive literacy skills. Compared with national and SADC averages, both spelling and listening outcomes are slightly higher, reflecting modest but encouraging progress in early literacy development.

➢ *The Current Levels of the Foundational Numeracy*

The results show strong foundational numeracy, with 73% of learners demonstrating number recognition and 62% counting confidently forwards and backwards. While number recognition is a clear strength, counting skills require further reinforcement. Overall, these outcomes are slightly above national averages and outperform SADC regional benchmarks, indicating positive progress in early numeracy development.

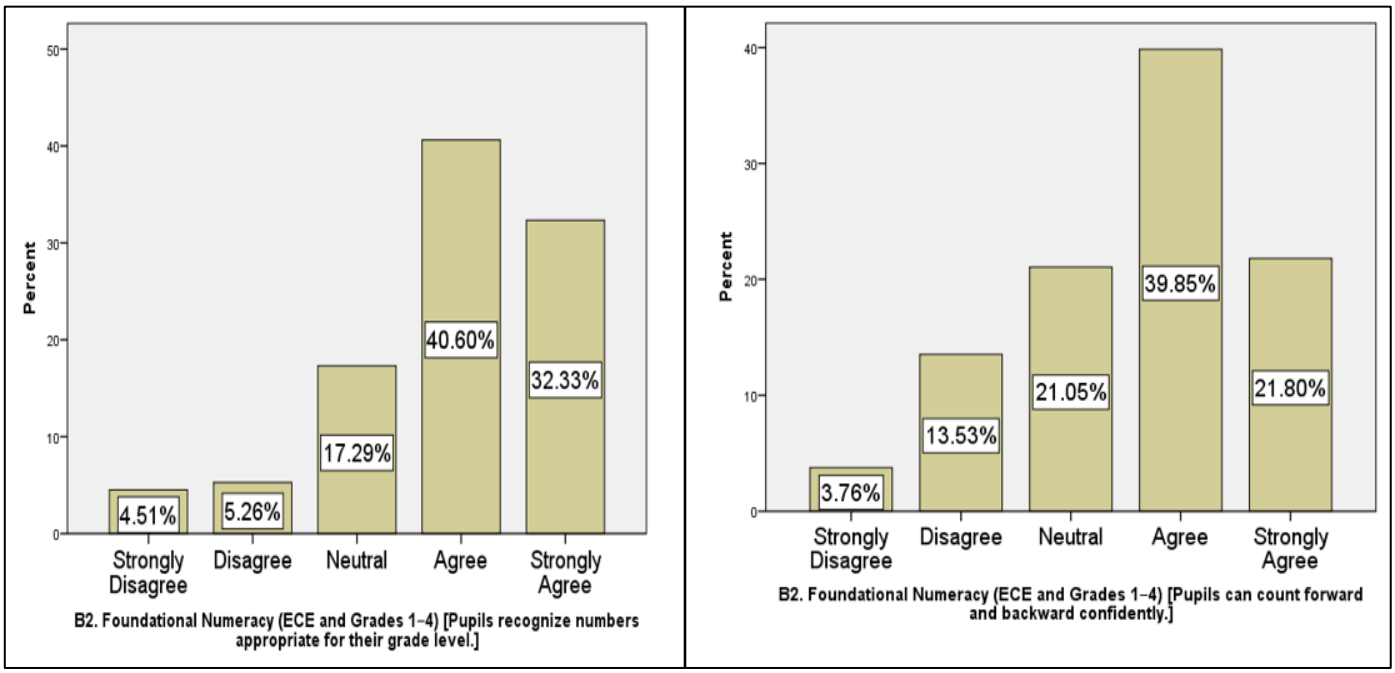

Fig 6 Number Recognition and Counting Backwards and Forward Confidently

65% of learners perform addition and subtraction accurately, and 54% understand place value, showing solid basic skills but need for deeper number concept reinforcement. Performance exceeds Zambia's national averages (55–60% and 45–50%) and SADC regional benchmarks (50–55% and 40–45%), indicating above-average achievement in early numeracy.

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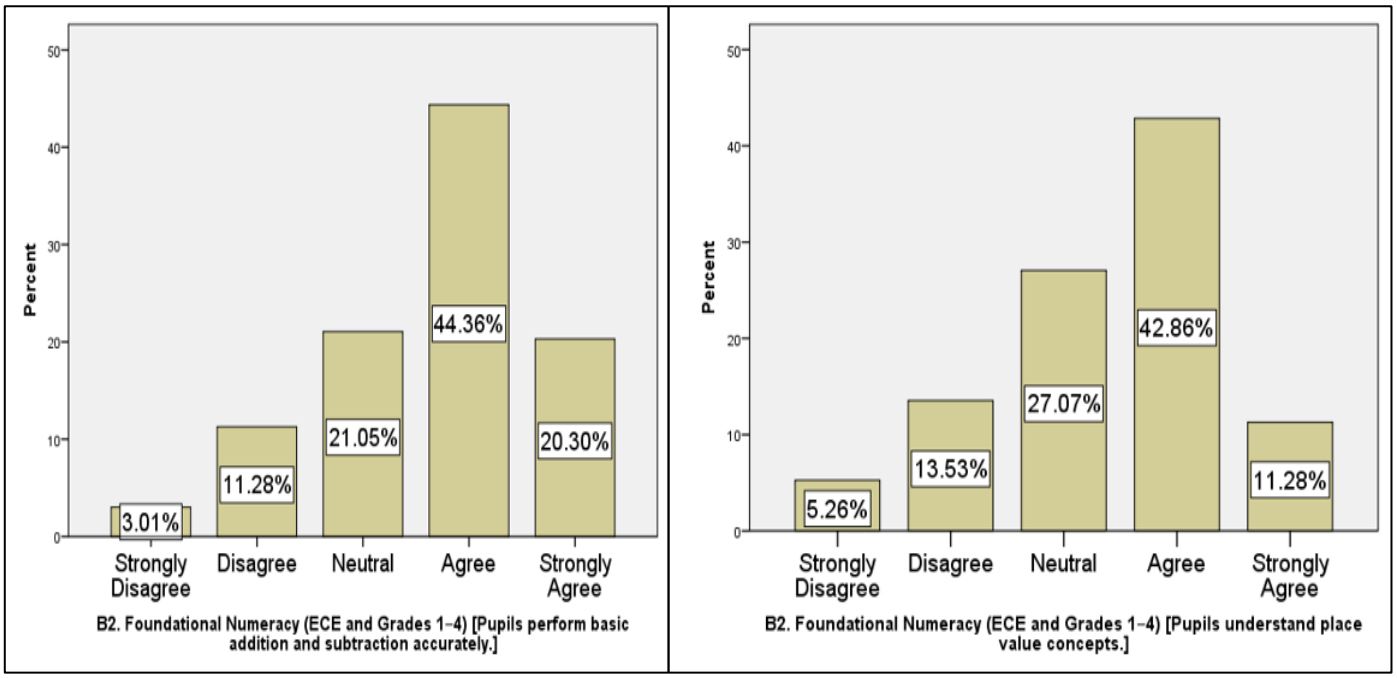

Fig 7 Addition & Subtraction Accurately and Understanding Place Value Concepts

44% of learners solve simple word problems, while 57% understand basic shapes and measurements, showing stronger spatial than problem-solving skills. Performance slightly exceeds Zambia's national averages (40–45% and 50–55%) and surpasses SADC regional benchmarks (below 40% and 50%), indicating above-average achievement in these areas.

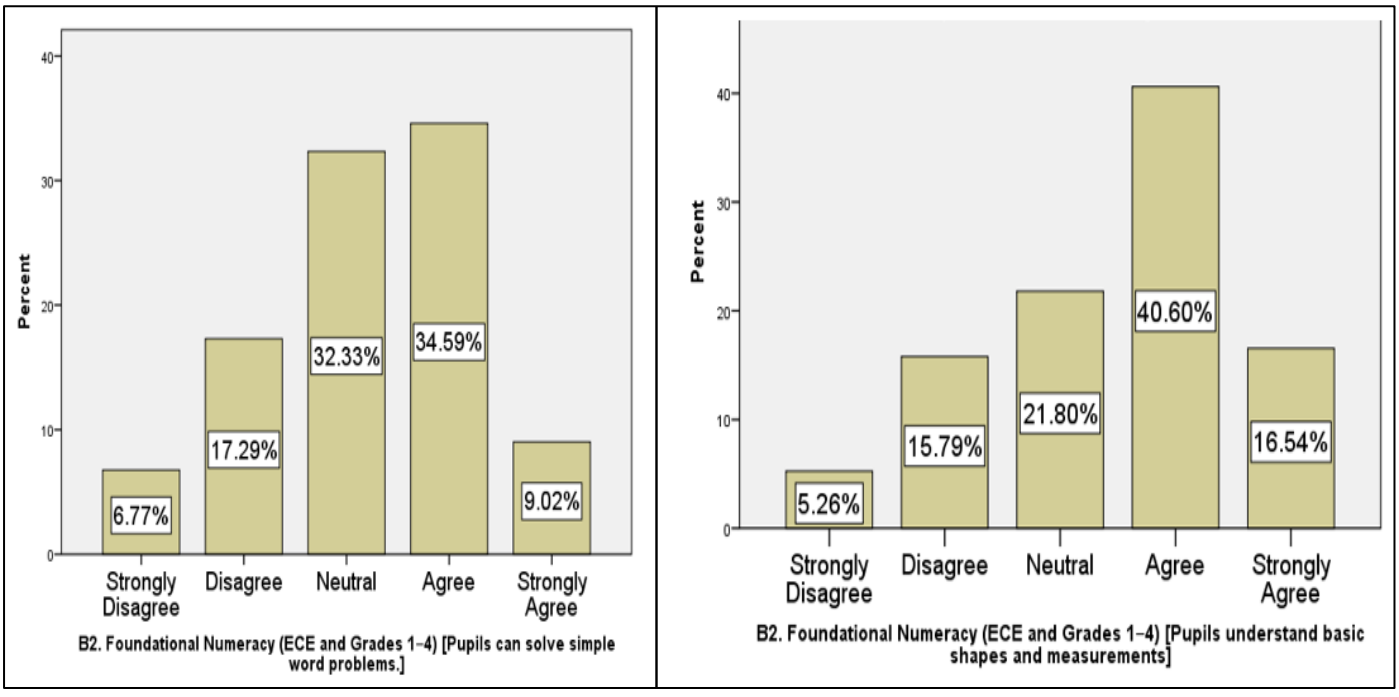

Fig 8 Solve Simple Word Problems and Understand Basic Shapes/ Measurements

The results show that 44% of learners can tell time correctly, reflecting moderate progress in this key numeracy skill. Compared with Zambia's national averages, where time-telling proficiency is typically around 40–45%, the results align closely with the baseline. At the SADC regional level, averages are often below 40%, meaning these learners are performing slightly above the regional benchmark, though time concepts remain an area requiring targeted reinforcement.

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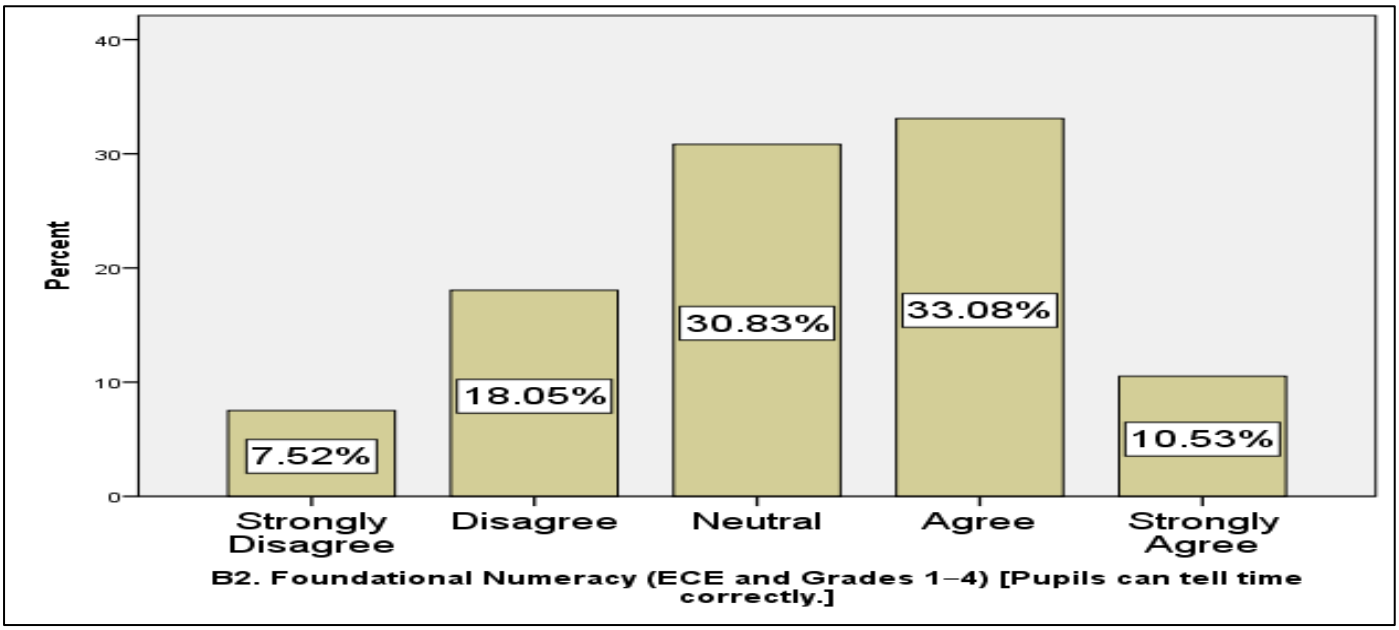

Fig 9 Can Tell Time Correctly

➢ *Teachers' Training and Support*

Effective implementation of Zambia's 2023 Education Curriculum requires reformed teacher training, making literacy and numeracy compulsory. Training must emphasize practical, learner-centred, competency-based methods, evidence-based reading and math strategies, hands-on practice, multilingual instruction, and inclusive approaches, ensuring teachers can build essential skills and adapt to diverse classroom needs.

- *Teachers' Training and Support- Literacy*

The results show that 78% of teachers reported being adequately trained to teach foundation literacy, while 70% demonstrated competence in phonemic awareness for local languages. These figures are stronger than Zambia's national averages, where foundation literacy training coverage is typically around 65–70% and phonemic awareness closer to 60–65%, reflecting gaps in teacher preparation. Compared with SADC regional averages, which often fall below 65% for foundation literacy training and around 55–60% for phonemic awareness, these results are notably higher, suggesting stronger capacity in early literacy instruction than both national and regional benchmarks.

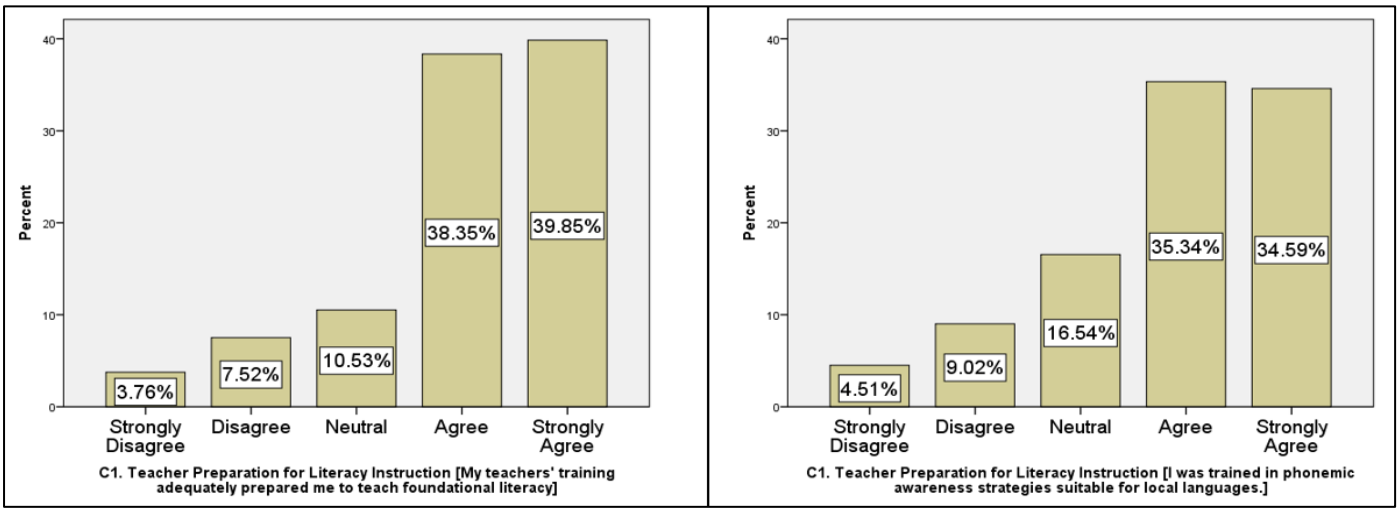

Fig 10 Trained Adequately to Teach Literacy and Phonemic Awareness/ ZL

The results show that 73% of teachers are trained in using local stories for literacy instruction, while 69% are prepared to support the transition from local languages to English. Compared with Zambia's national averages, where training in local story-based literacy is typically around 60–65% and support for language transition closer to 55–60%, the current figures are notably stronger. At the SADC regional level, averages are often below 60% for local story integration and around 50–55% for transition support, meaning the teachers are performing well above both national and regional benchmarks.

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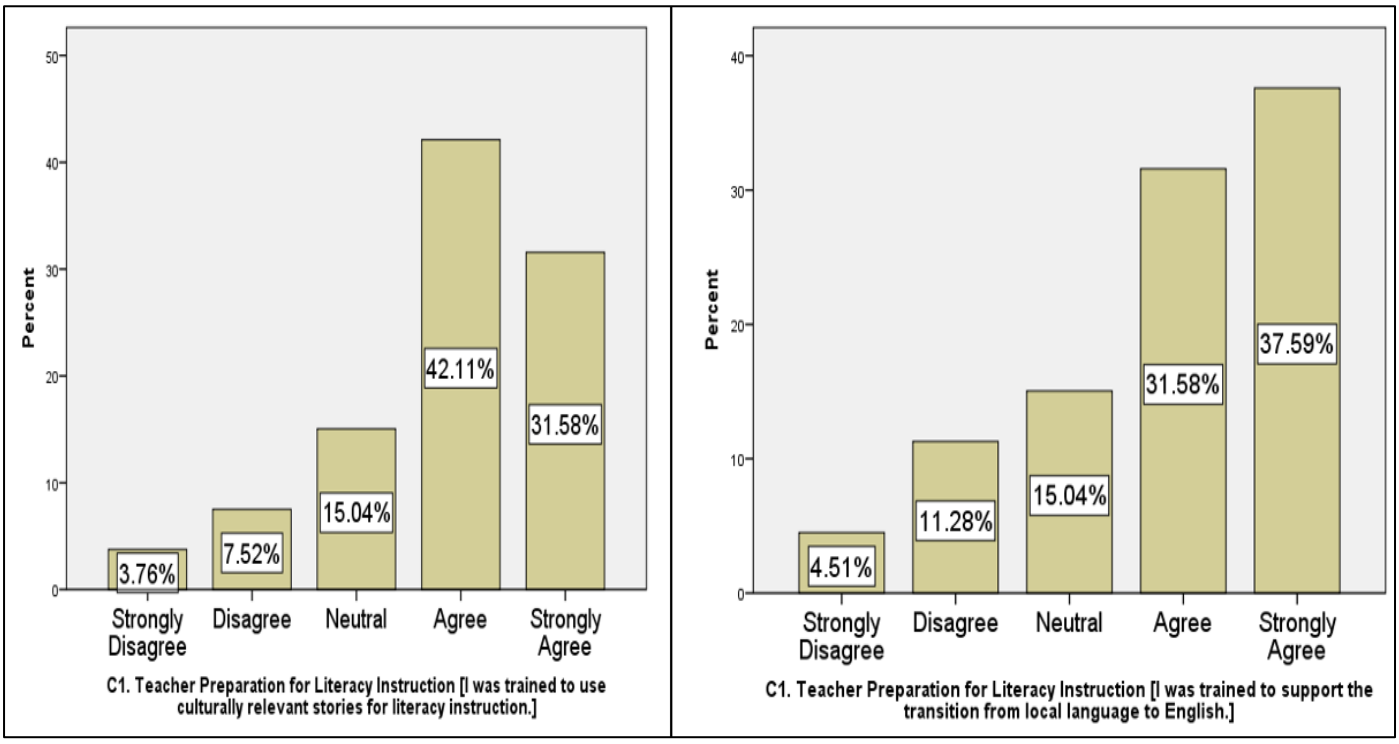

Fig 11 Trained in Local Stories for Literacy and Support Transition - Local to English

78% of teachers are trained in formative assessment techniques for literacy, while 68% report being prepared to handle large classes. Compared with Zambia's national averages, where formative assessment training coverage is typically around 65–70% and capacity to manage large classes closer to 55–60%, these figures are notably stronger. At the SADC regional level, averages are often below 65% for formative assessment training and around 50–55% for large-class management, meaning the teachers are performing above both national and regional benchmarks.

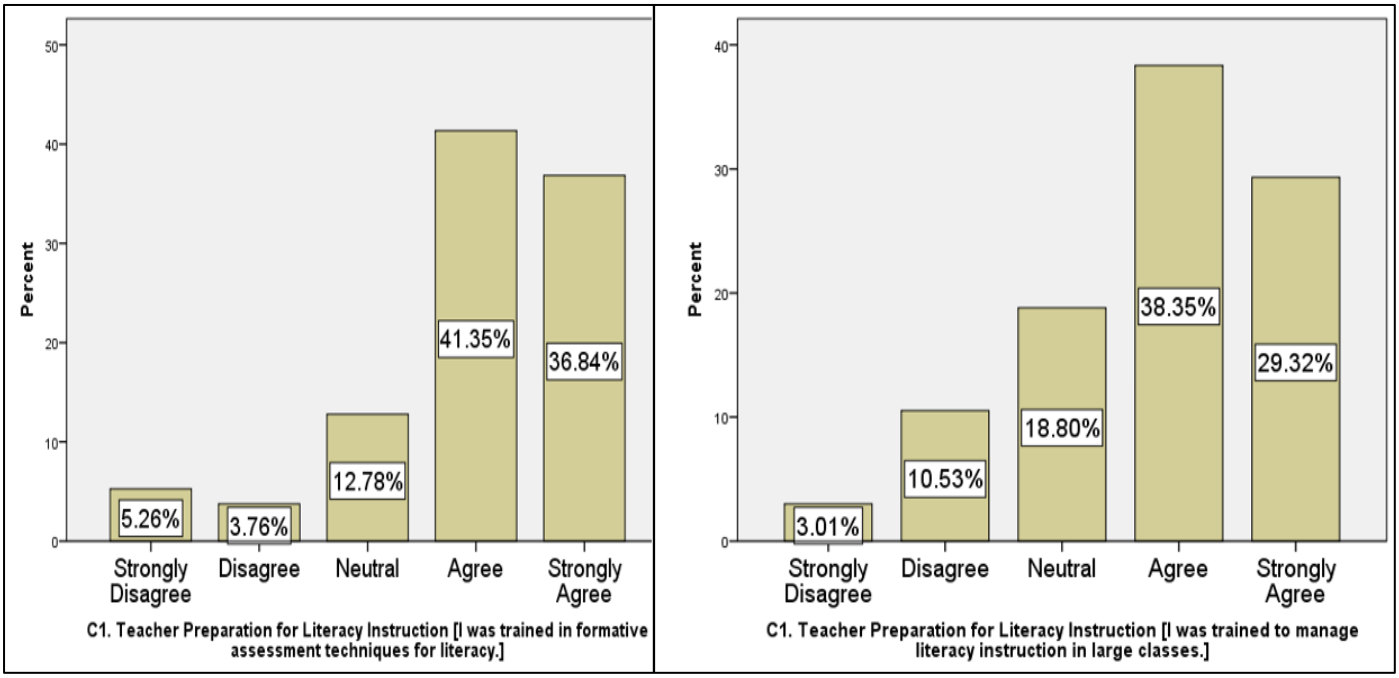

Fig 12 Trained in Formative Assessment for Literacy and to Handle Large Classes

The results show that 83% of teachers are trained to handle learners with different abilities in literacy, reflecting strong preparedness for inclusive education. Compared with Zambia's national averages, where coverage is typically around 70–75%, the figure is significantly higher, suggesting stronger teacher readiness in the sample. At the SADC regional level, averages are often closer to 65–70%, meaning the sample teachers are performing well above regional benchmarks.

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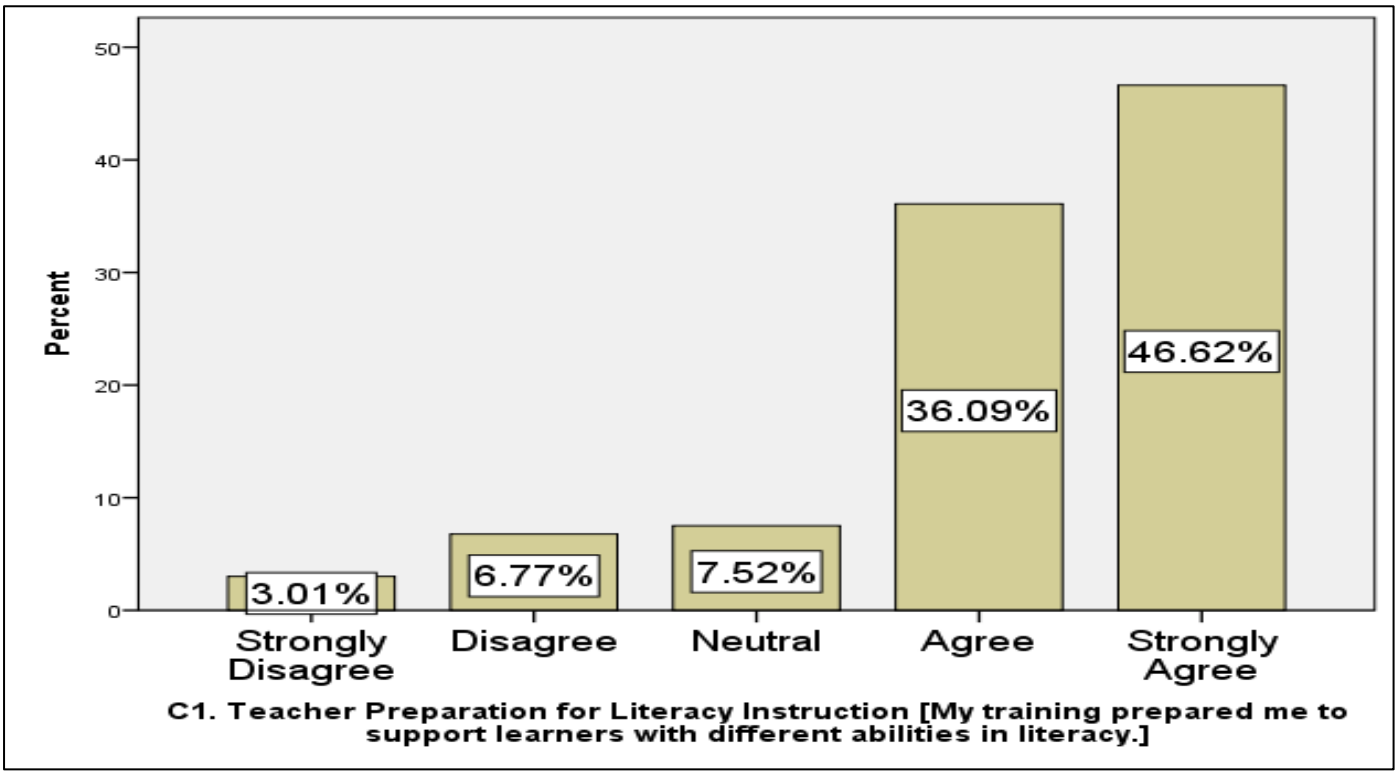

Fig 13 Trained to Handle Learners with Different Abilities in Literacy

- *Teachers' Training and Support- Numeracy*

72% of teachers are prepared to teach foundational numeracy, and 80% are trained in using local materials, showing strong pedagogical readiness and resourcefulness. These figures exceed Zambia's national averages (65–70%) and SADC regional benchmarks (below 65% and 60–65%), indicating above-average teacher capacity in numeracy instruction.

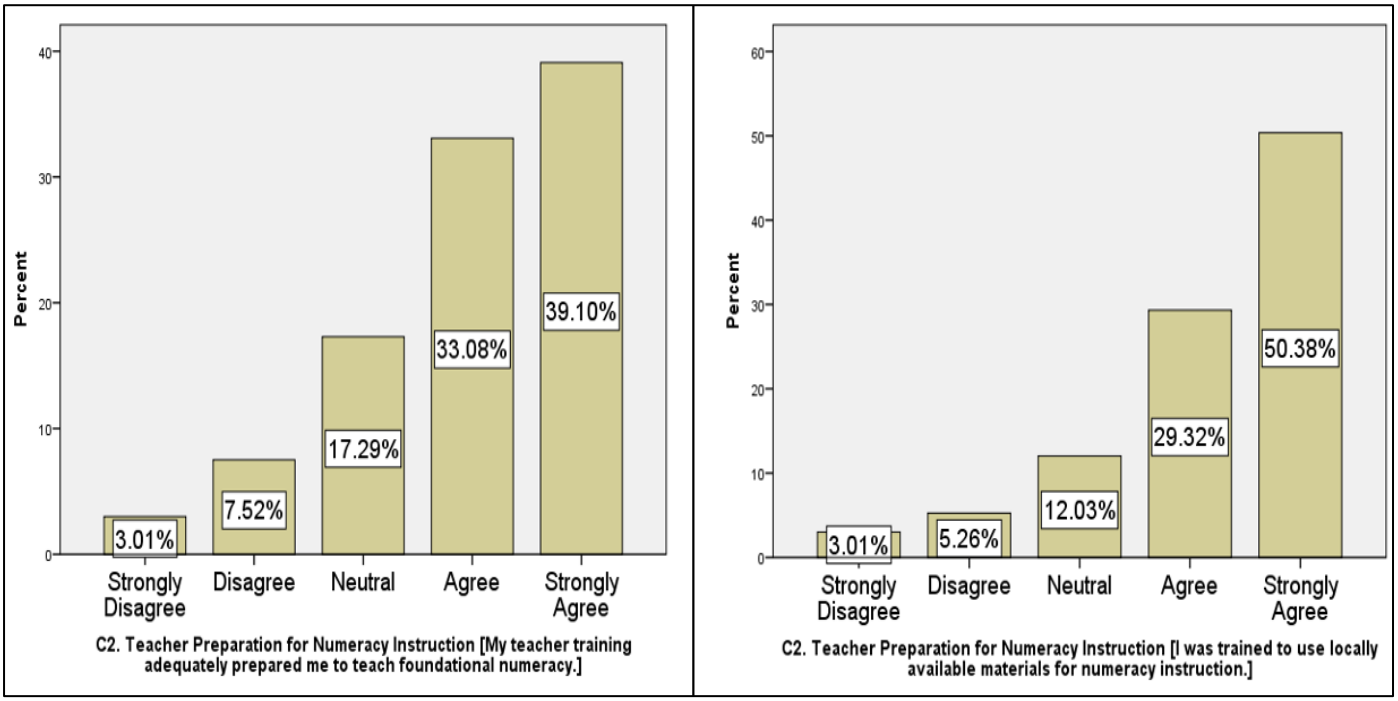

Fig 14 Trained to Teach Numeracy and Using Locally Available Materials

83% of teachers are trained in real-life numeracy contexts and 74% in number talks, demonstrating strong capacity to contextualize learning and foster interactive problem-solving. These figures surpass Zambia's national averages (70–75% and 60–65%) and SADC benchmarks (below 70% and 55–60%), indicating above-average teacher preparedness.

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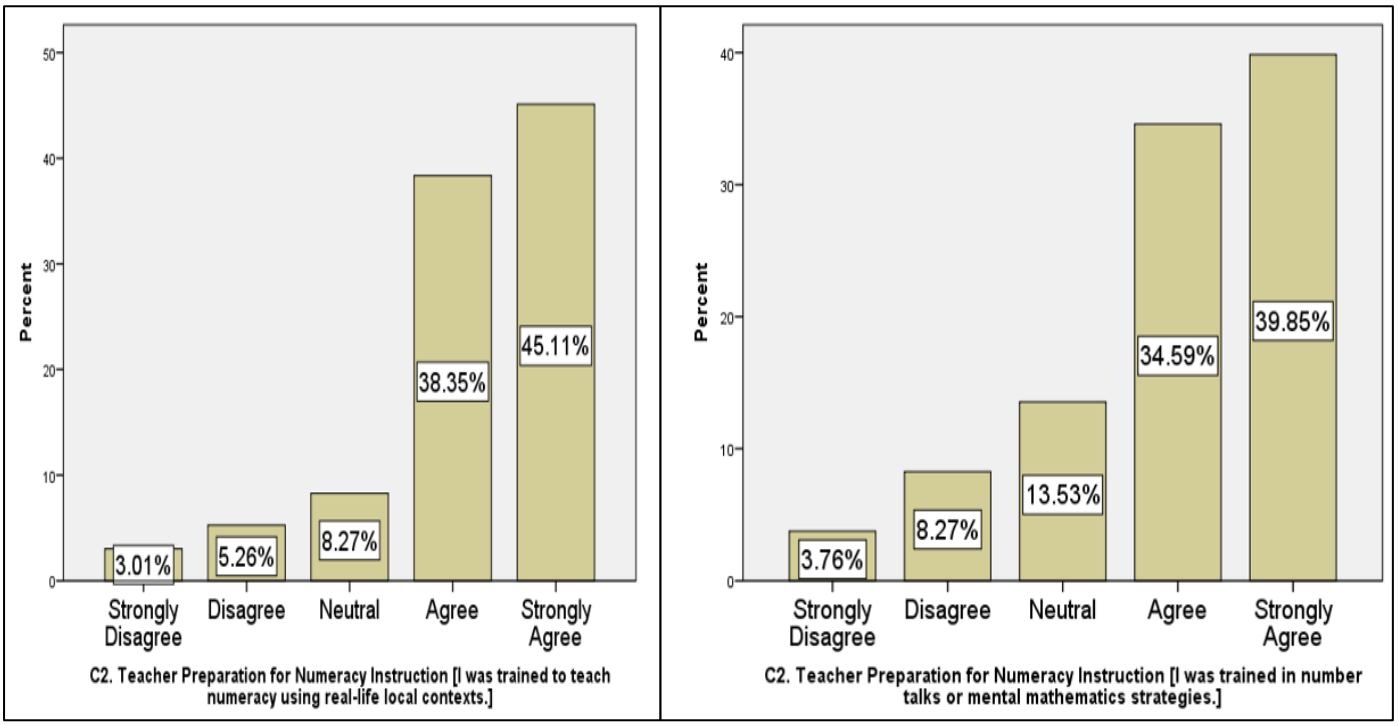

Fig 15 Teach Numeracy Using Real -Life Contexts and Trained in Number Talks

77% of teachers are trained in formative assessment and 70% in managing large-class numeracy, showing strong readiness in both assessment-based teaching and challenging classroom management. These figures exceed Zambia's national averages (65–70% and 55–60%) and SADC benchmarks (below 65% and 50–55%), indicating above-average teacher capacity.

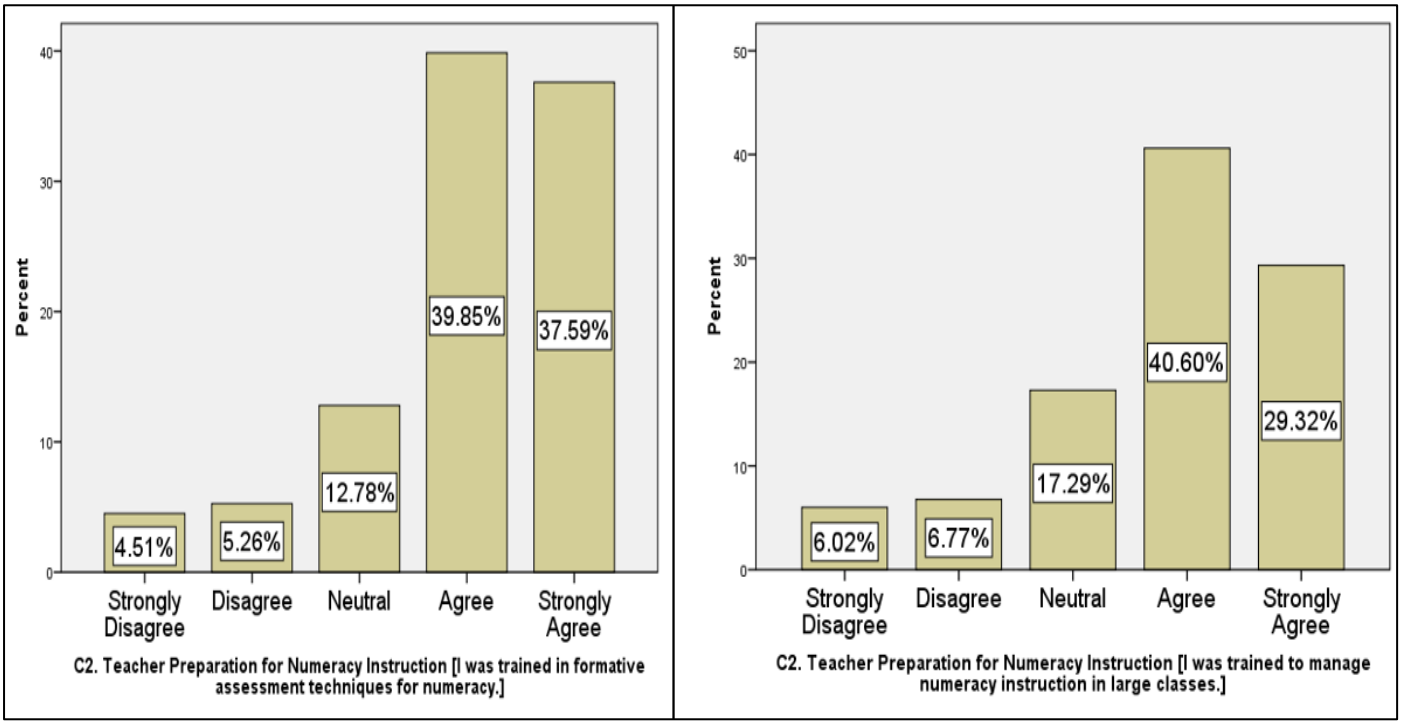

Fig 16 Trained in Formative Assessment - Numeracy and Handle Large Classes

Figure 17 below shows that 78% of teachers are prepared to support learners with different abilities in numeration, reflecting strong readiness for inclusive numeracy instruction. Compared with Zambia's national averages, where teacher preparedness in differentiated numeracy support is typically around 65–70%, the figure is clearly higher. At the SADC regional level, averages are often closer to 60–65%, meaning the teachers are performing well above regional benchmarks.

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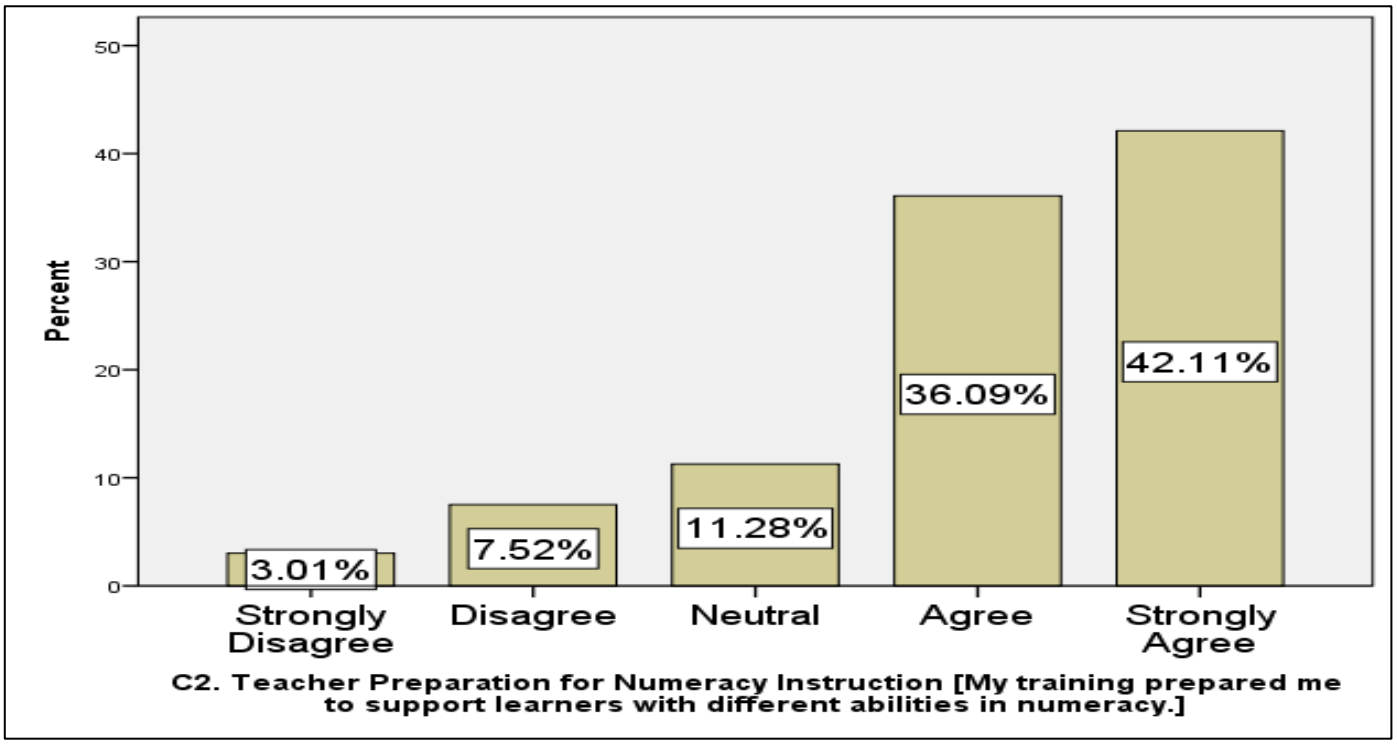

Fig 17 Prepared to Support Learners with Different Abilities in Numeracy

➢ *Ongoing Mentoring Support*

56% of teachers receive adequate mentoring in literacy and numeracy, showing moderate support. This slightly exceeds Zambia's national average (50–55%) and SADC benchmarks (45–50%) but remains below the desired level for universal mentoring coverage, indicating room for improvement despite above-regional performance.

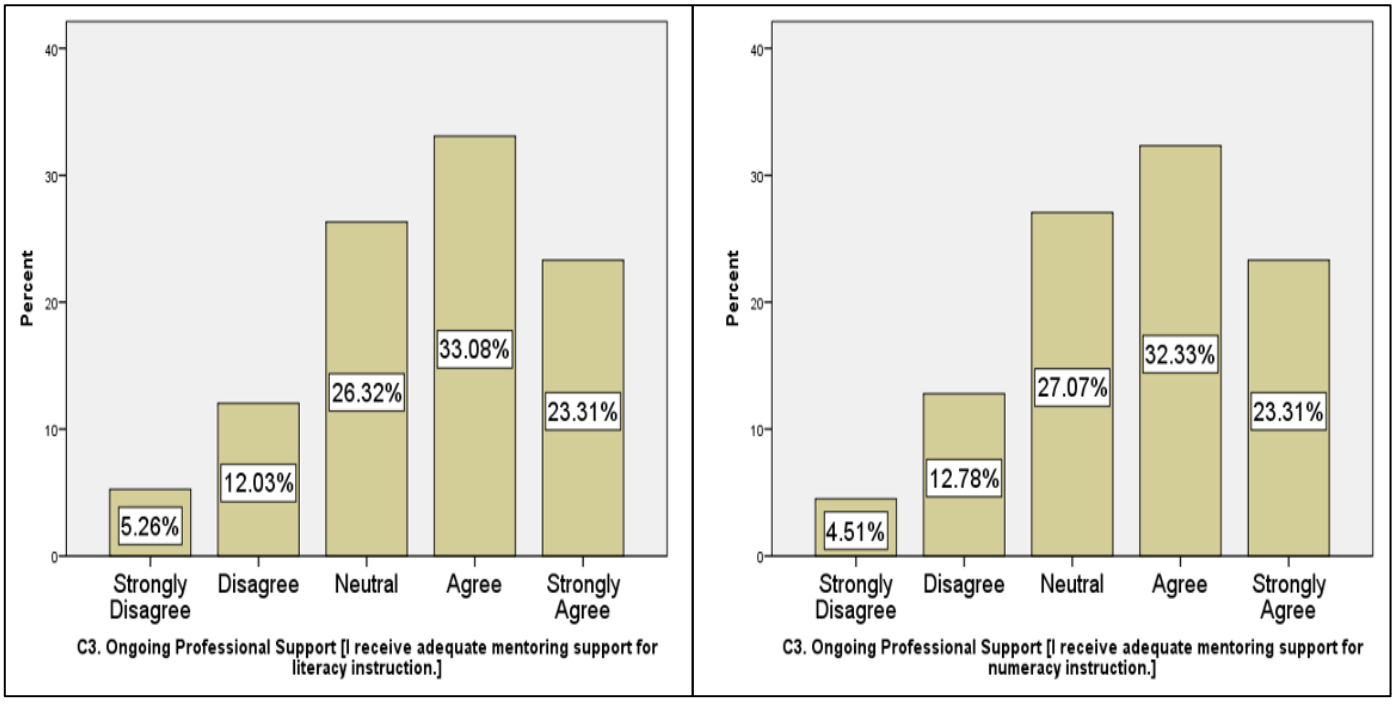

Fig 18 Receives Adequate Mentoring/Support for Literacy and Numeracy Instruction

67% of teachers report instructional support from leadership, and 73% find in-service professional development meets their needs, indicating strong support. These figures exceed Zambia's national averages (60–65% and 65–70%) and SADC benchmarks (below 60% and 60–65%), reflecting above-regional performance in teacher support and development.

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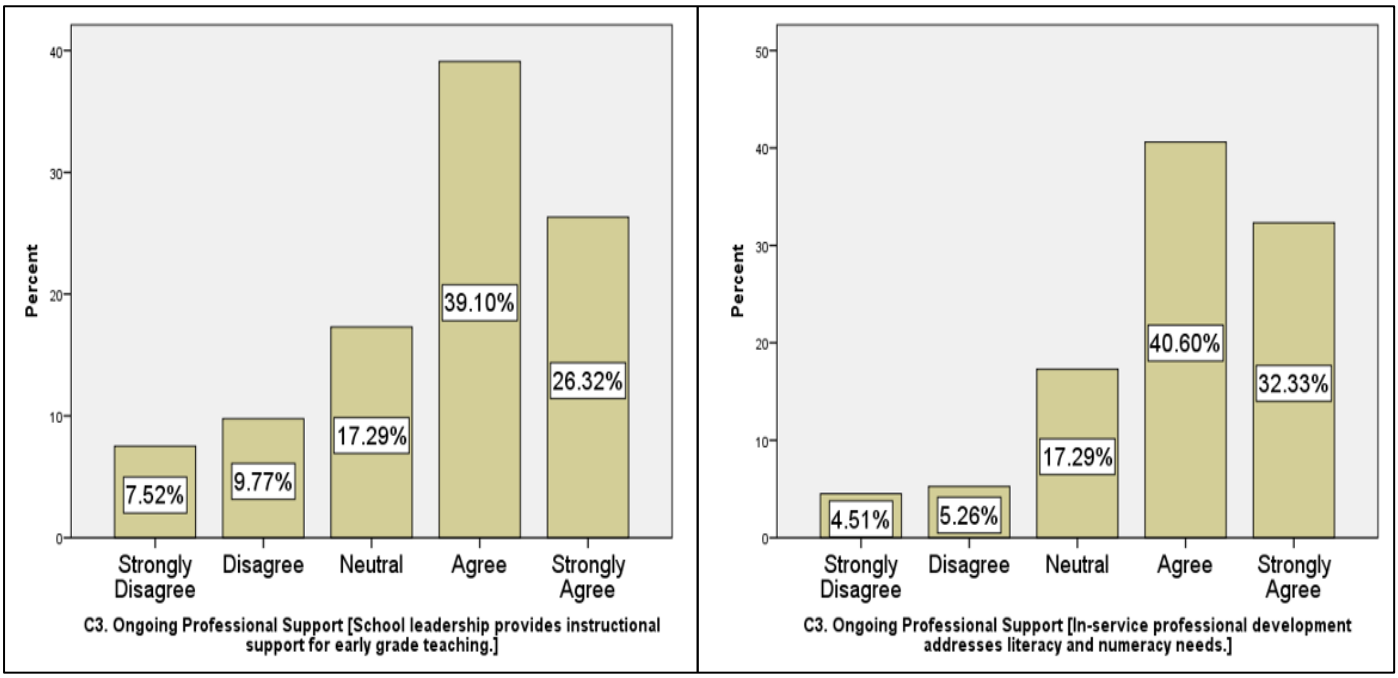

Fig 19 School Leadership Provides Instructional Support and In-Service Professional Development

75% of teachers are confident in teaching foundational literacy and numeracy, demonstrating strong self-assurance essential for quality instruction. This exceeds Zambia's national averages (65–70%) and SADC benchmarks (60–65%), indicating teachers are performing well above both national and regional levels.

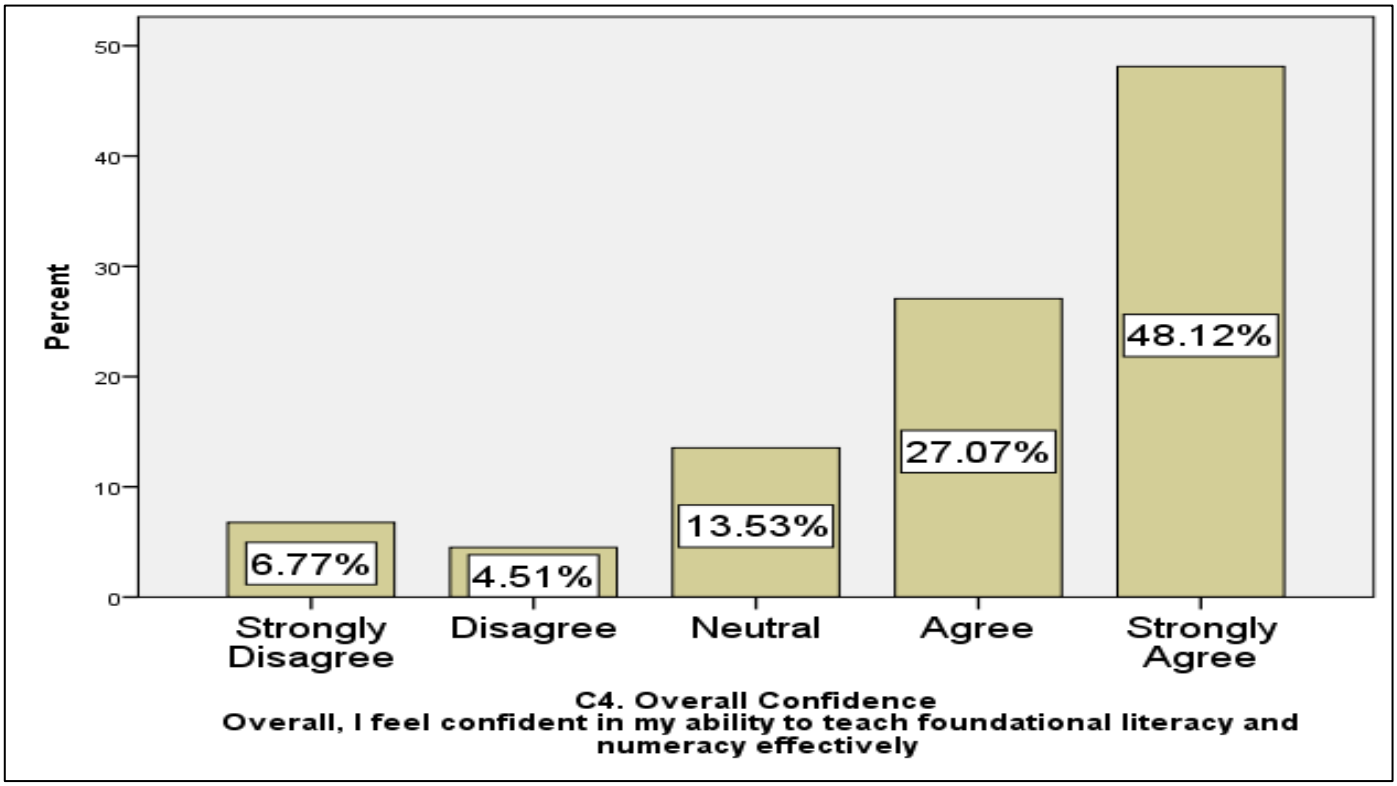

Fig 20 Confidence in the Ability to Teach Foundational Literacy and Numeracy Effectively.

- *Availability and Quality of Teaching and Learning Materials*

Respondents reported significant shortages of textbooks, worksheets, concrete aids, and CBC-aligned materials, especially in rural schools, limiting hands-on literacy and numeracy learning. District Resource Centres are poorly stocked, highlighting a gap between policy intent and implementation, and the need for equitable provision of quality, inclusive instructional resources.

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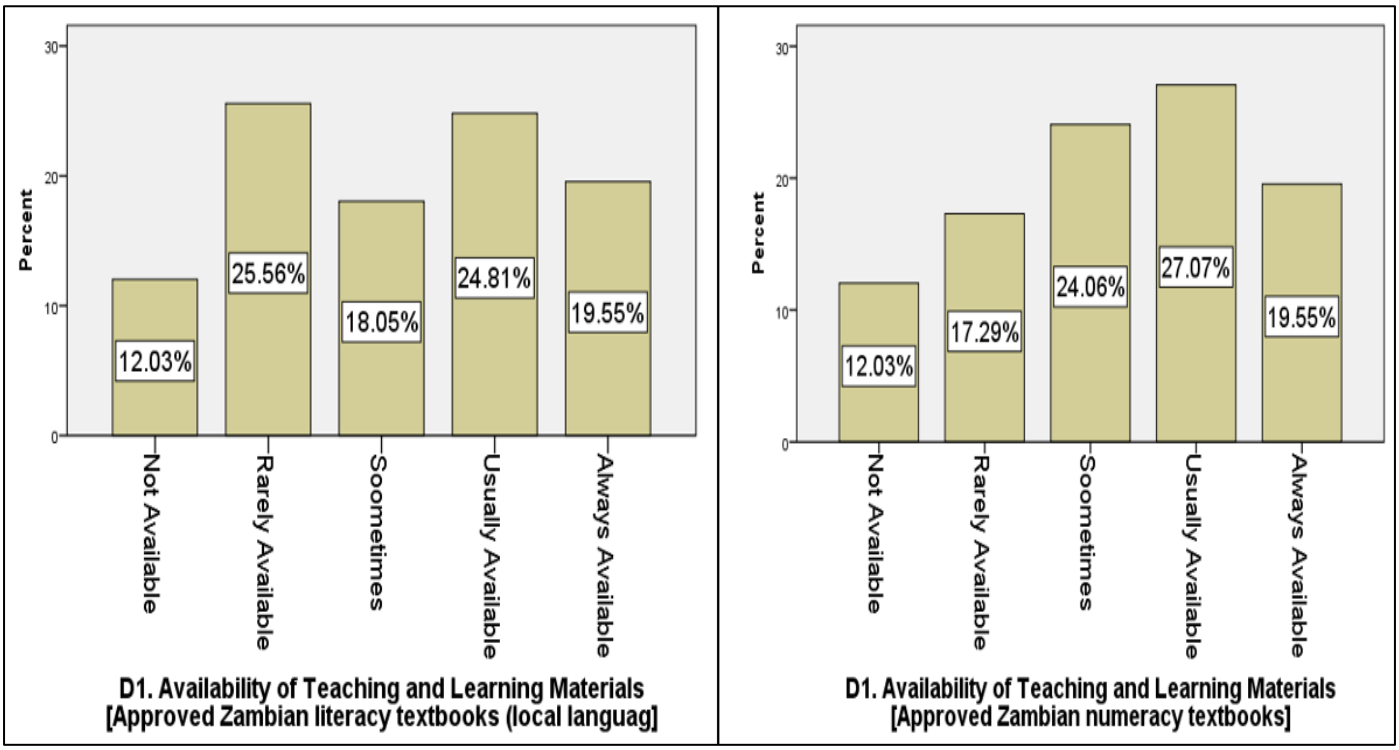

Fig 21 Availability of Approved Literacy Textbooks and Numeracy Textbooks

Only 44% of schools have approved literacy textbooks and 47% have numeracy textbooks, showing a significant resource gap. These figures are slightly below Zambia's national averages (50–55% and 55–60%) and at or just below SADC regional benchmarks (45–50% and 50–55%), limiting learner access to essential materials.

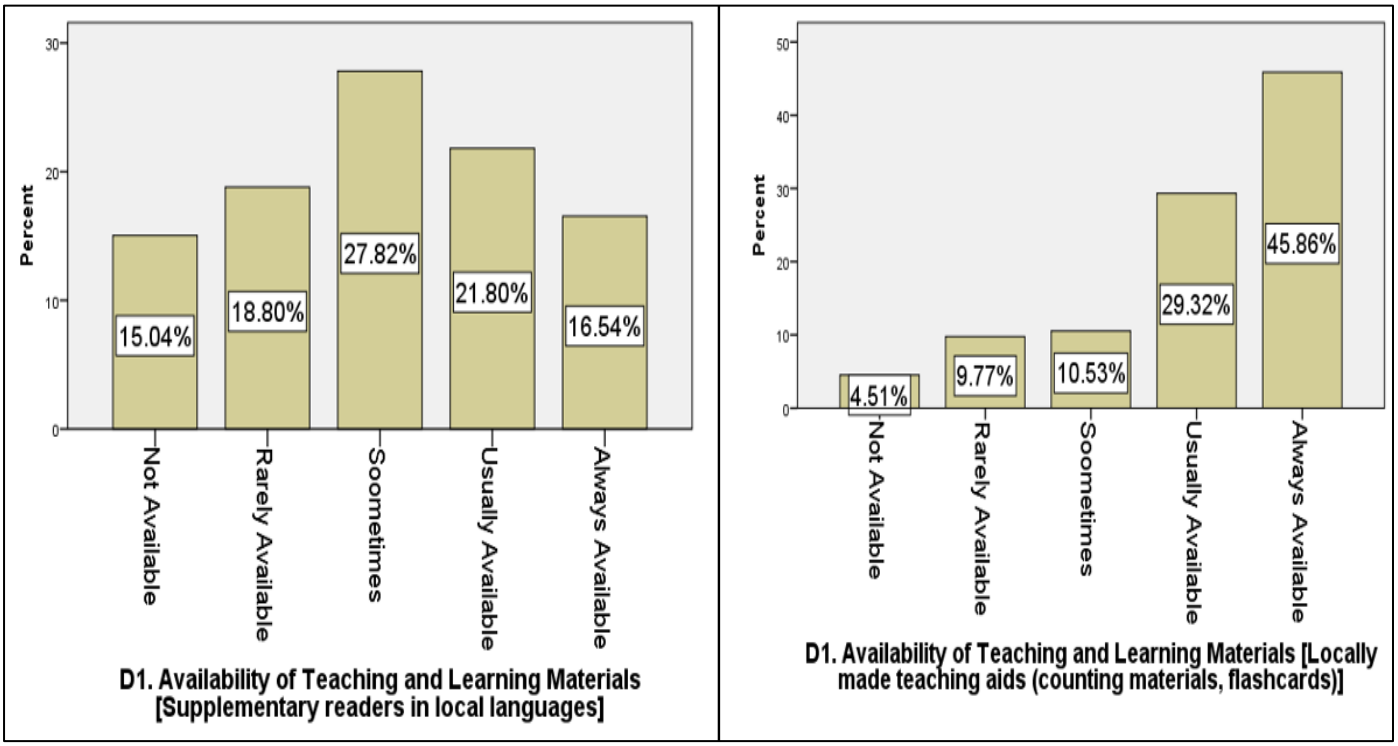

Fig 22 Availability of Supplementary Readers in Local Languages and Locally Made Numeracy Teaching Aids

38% of schools have supplementary local-language readers, while 75% provide locally made numeracy aids, showing strong numeracy resourcefulness but limited literacy materials. Literacy is slightly below Zambia's national average (40–45%), numeracy exceeds it (65–70%), placing schools at or above SADC benchmarks, with numeracy resources a notable strength.

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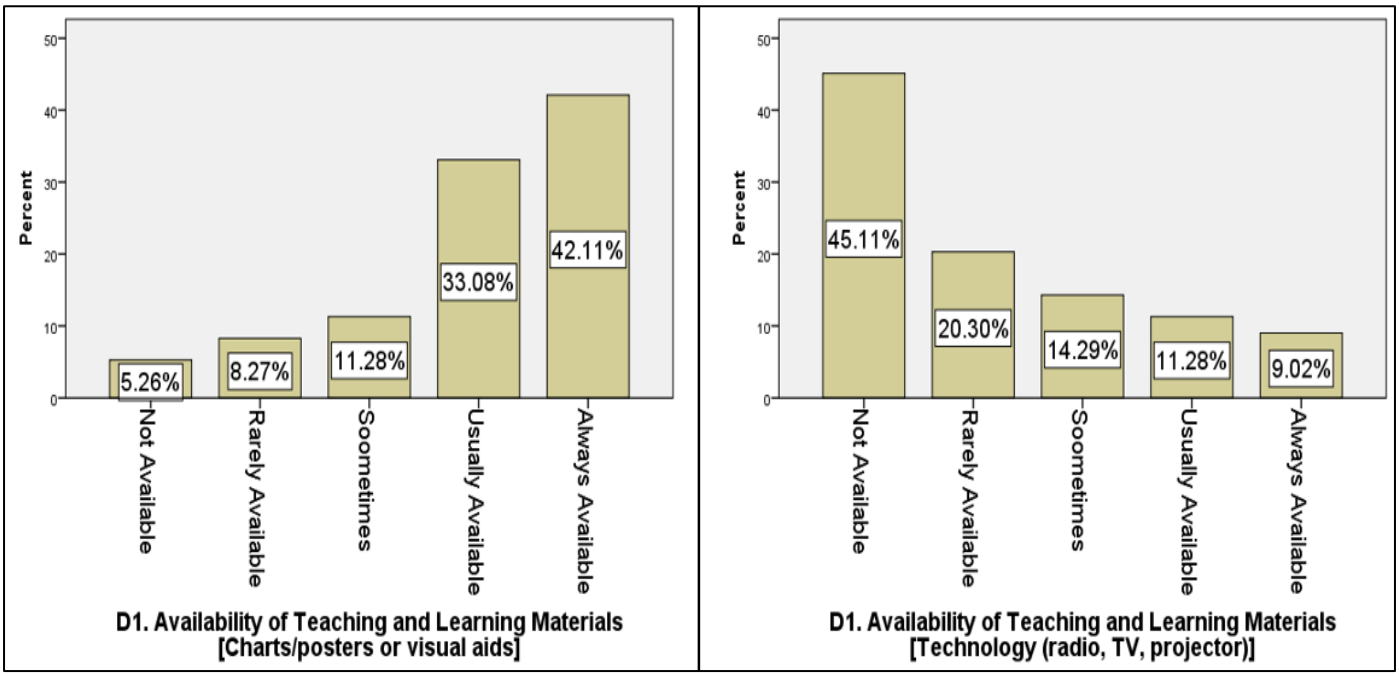

Fig 23 Availability of Charts/Posters and Technology-Related Aids

Figure 23 indicates 75% of schools have charts and posters, but only 20% access technology aids, reflecting strong use of traditional visuals and limited technology integration. Compared to Zambia's national (65–70% and 25–30%) and SADC benchmarks (60–65% and 20–25%), schools excel in visual resources yet remain constrained technologically.

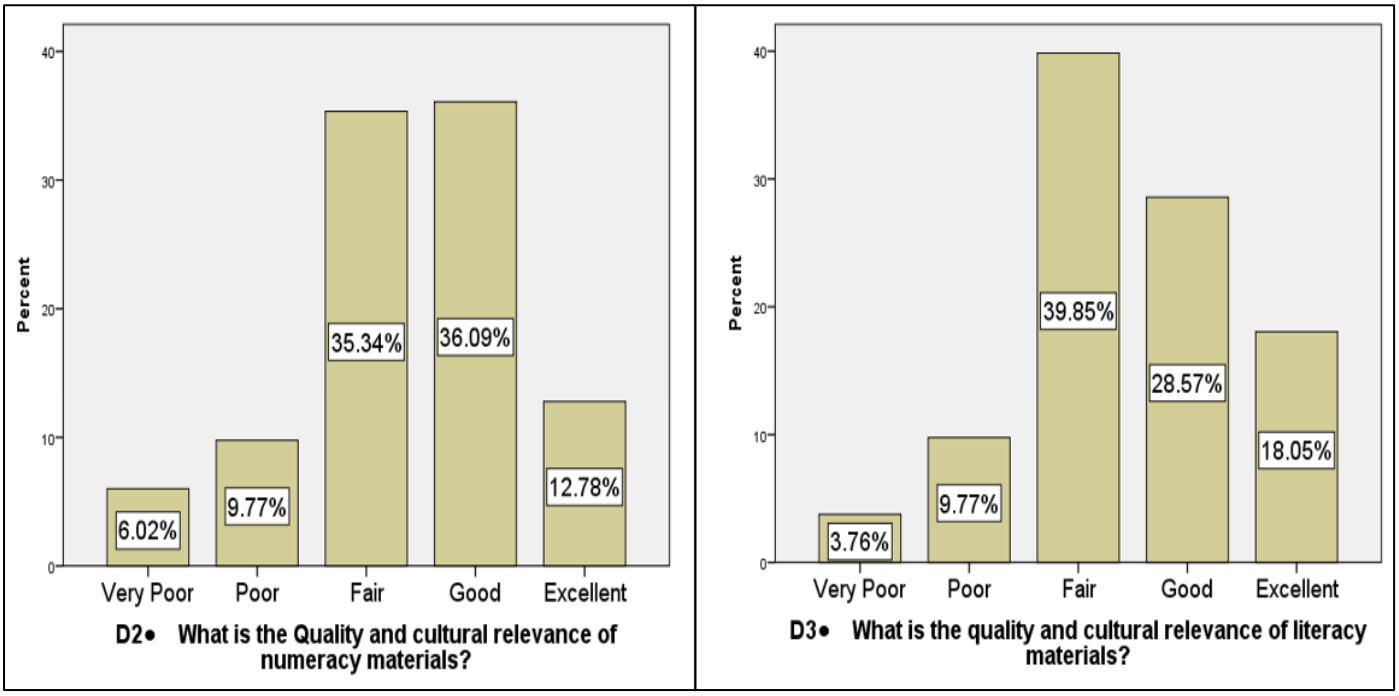

Fig 24 Quality and Cultural Relevancy of Materials – Numeracy and Literacy

Figure 24 shows 49% of schools provide quality, culturally relevant numeracy materials and 47% for literacy, indicating that fewer than half of learners access pedagogically sound, contextually appropriate resources. While slightly below national averages (50–55%), schools meet or marginally exceed SADC regional benchmarks (numeracy 45–50%, literacy 40–45%).

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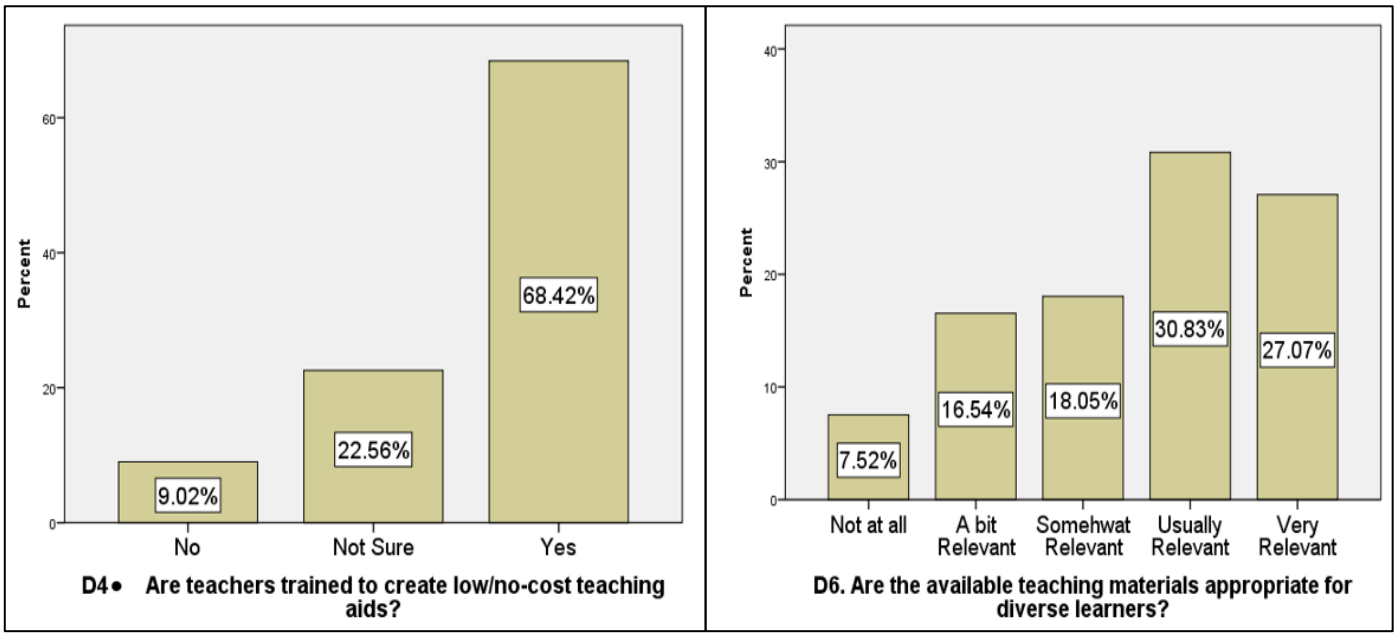

Fig 25 Trained to Create Low/No-Cost Teaching Aids and Availability of Teaching Materials for Diverse Learners

Figure 25 shows 68% of teachers are trained to develop low/no-cost teaching aids, while 58% report available teaching materials. This reflects strong teacher resourcefulness but moderate material availability. Both indicators surpass Zambia's national averages (60–65% and 55–60%) and SADC benchmarks (55–60% and 50–55%), demonstrating above-regional performance.

➢ *Examples of Low-Cost Teaching Aids that Teachers are Trained to Make*

Low-cost teaching aids leverage locally available and recycled materials. For numeracy, common tools include abacuses and counters made from bottle tops, sticks, and stones. Literacy aids feature flashcards, charts, and letter cut-outs from cartons or old calendars. Other creative resources include geo boards, puppets, talking walls, paper-mâché, and traditional games.

➢ *Urban-Rural Disparities in Literacy and Numeracy Outcomes*

In terms of literacy and numeracy outcomes, urban schools perform better than rural schools**,** Zambia's Education Statistics Bulletin and parliamentary inquiries into foundational learning emphasize that literacy and numeracy outcomes are significantly better in urban provinces (Lusaka, Copperbelt) compared to rural ones, due to differences in school resources, teacher availability, and infrastructure. UNICEF's campaign on ending learning poverty in Zambia also underscores these inequities, pointing out that rural learners are disproportionately affected by poor foundational skills. Primary data in Figure 1 reflects that teachers believe that urban schools perform better.

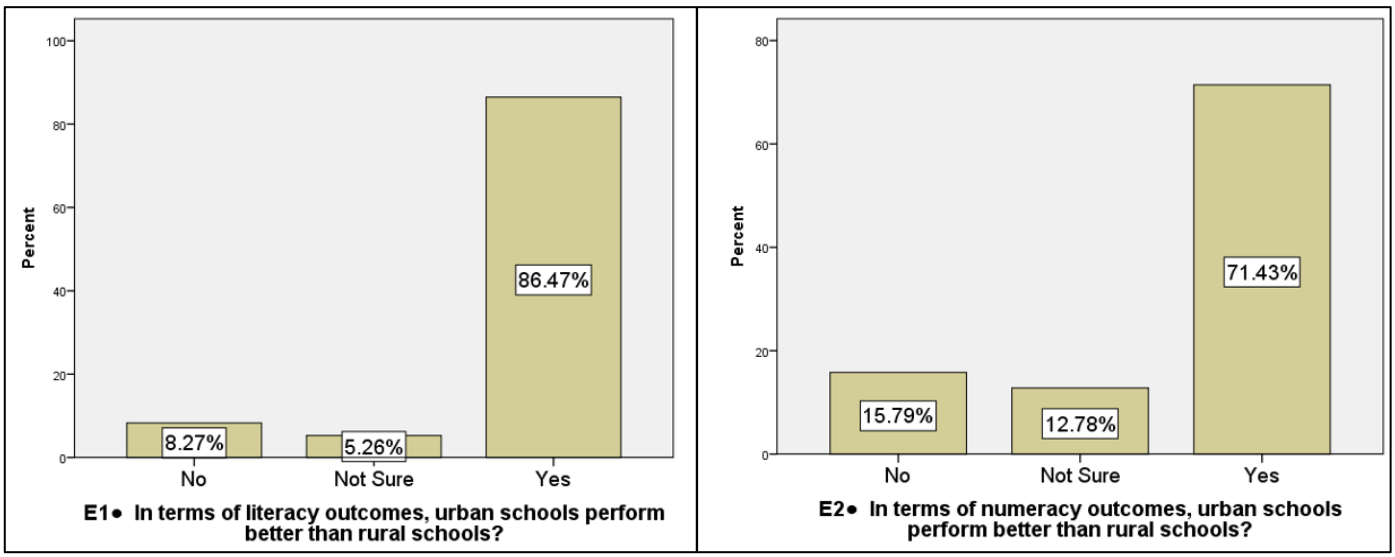

Fig 26 Urban Schools Perform Better than Rural Schools in Literacy and Urban Schools Perform Better than Rural Schools in Numeracy.

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Figure 26 indicates urban schools outperform rural ones, with 86% achieving strong literacy and 71% numeracy outcomes, highlighting resource and support disparities. These results exceed Zambia's national averages (literacy 80–85%, numeracy 65–70%) and SADC benchmarks (literacy 75–80%, numeracy 60–65%), demonstrating above-regional urban school performance.

V. WAY FORWARD

➢ *Learner-Centered*

- *Learner Centred and Experiential Numeracy Instruction*

Respondents highlighted the effectiveness of learner-centred, hands-on approaches in numeracy instruction, including counting physical objects, number games, songs, mental mathematics, and real-life problem-solving (e.g., cooking, money handling, fertiliser application). The Concrete–Representational–Abstract (CRA) approach, group work, and problem-based learning enabled learners to progress from basic counting to higher-order skills, including division and place value by Grade 3. These practices operationalize the Zambia Education Curriculum Framework (ZECF, 2023) emphasis on active, competency-based learning and differentiated instruction.

➢ *Catch-Up and Remedial Strategies*

Catch-Up and remedial programs emerged as key mechanisms for addressing foundational learning gaps. Daily catch-up sessions, targeted exercises, mental mathematics routines, and level-based support enabled learners who were behind to acquire essential numeracy skills. When combined with concrete materials and continuous assessment, these strategies aligned closely with ZECF priorities on learning recovery, equity, and inclusion, ensuring no learner is left behind.

➢ *Use of Local and Low-Cost Materials*

Teachers frequently utilized locally available and improvised materials such as sticks, stones, bottle tops, boxes, number cards, and locally made charts. These resources enhanced comprehension, contextualized learning, and increased learner engagement, particularly in resource-constrained rural and peri-urban schools. These practices strongly reflect ZECF guidance on cost-effective, culturally relevant, and context-sensitive instructional materials.

➢ *Language Use and Learner Engagement*

Code-switching and instruction in familiar local languages facilitated comprehension and participation, particularly in early grades. Using known-to-unknown teaching approaches enabled learners to grasp numeracy concepts effectively and fostered parental involvement, aligning with ZECF multilingual education policies and inclusive learning principles.

➢ *Teacher Training and Professional Development*

Respondents emphasized reforming teacher training to prioritize practical, hands-on literacy and numeracy instruction. Recommendations included specialization in foundational learning, incorporation of evidence-based teaching methods (phonics, number sense, problem-solving), classroom simulations, mentoring, and alignment with CBC standards. Continuous Professional Development (CPD) was highlighted as essential for reinforcing instructional quality.

➢ *Community and Parental Engagement*

Communities supported teachers, monitored attendance, facilitated learning resources, and promoted positive attitudes toward schooling. Parents reinforced learning at home, encouraged school attendance, and created literacy- and numeracy-rich environments. These actions reflect ZECF's whole-of-society approach and the importance of home–school collaboration in improving learning outcomes.

VI. STRATEGIC RECOMMENDATIONS

Key strategies include enhancing practical teacher preparation, institutionalizing literacy and numeracy specialization, embedding evidence-based pedagogy and language policies, establishing structured CPD systems, promoting inclusive instruction, providing quality and contextually relevant teaching materials, addressing attendance and social barriers, improving school infrastructure, supporting adult literacy, engaging stakeholders, and integrating foundational learning across all subjects. Collectively, these practices and recommendations demonstrate strong alignment with the 2023 ZECF, emphasizing competency-based instruction, teacher capacity building, community and parental involvement, inclusive learning, and systemic coordination to sustainably improve foundational literacy and numeracy outcomes.

VII. CONCLUSION

Zambia's primary education system demonstrates strong potential in foundational literacy and numeracy, anchored by well-trained teachers and a sound curriculum. However, systemic inequities especially rural–urban disparities in teacher deployment, infrastructure, learning materials, and support services undermine learning quality. Persistent material shortages, inadequate professional support, and challenging working conditions demotivate teachers, limiting their effectiveness. The crisis is one of environment and equity, not knowledge. Addressing these structural barriers through focused, equitable resource allocation, strengthening rural classrooms, and supporting teachers is essential to fully realise Zambia's educational potential and secure sustainable foundational learning outcomes for all children.

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